Modelling antecedents and wellbeing outcomes of job crafting

By

Nina J Fryer, Leeds University Business School;
Associate Principal Lecturer, Leeds Trinity University
ced0njq@leeds.ac.uk
Leeds Trinity University, Brownberrie Lane, Horsforth, Leeds, LS18 5HD

Introduction

It has long been recognised that employees in the same job can enact their work in different ways (Ilgen and Hollenbeck, 1991), but it is only recently that the mechanisms by which individuals do this have been examined more closely. Job Crafting is a new concept for considering this type of job design where the employee is considered as an active and dynamic participant in their job with the ability to modify their own job (Berg et al., 2010b 2001, Wrzesniewski and Dutton, 2001). Job crafting is a process where individuals use their own resources to make changes to their job, their work environment or their perceptions of their work, to improve work meaningfulness. Job crafting places the employee as an active participant in their job role, leading to a host of benefits for both the organisation and the individual employee.

Job crafting research consistently identifies that making direct changes to job tasks is one of three key processes of job crafting. Task crafting therefore provides common ground for further study, and has already been explored by McClelland et al., (2014) within high pressure, low autonomy call centre environments.

Research into antecedents of job crafting is small but growing. Evidence is beginning to show that individual, contextual and job design factors influence job crafting behaviour. In addition, job crafting research is showing positive outcomes in relation to staff wellbeing. This study aims to contribute towards the evidence base on both antecedents and wellbeing outcomes of job crafting. We present a new model of antecedents and outcomes of job crafting which takes account of personal characteristics, work relationships and job contextual factors such as organisational change. We propose a new relationship between job crafting and promotion and we present and argue that although a range of factors predict job crafting, autonomy is a key mediator in between personal and some contextual characteristics and job crafting. Finally, this study also proposes the existence of a 'climate for crafting' within a comparative context which explores whether a climate for crafting is distinct from other measures of climate.

A new model of antecedents and wellbeing outcomes of job crafting

1. Resilience as a predictor of task crafting

The idea that an individual has a bank of personal strengths that they can draw upon to enhance their work, and improve their ability to cope with challenging work circumstances and events is not new, and forms the basis of many theories explaining in-work behaviour, such as Broaden and Build (Fredrickson, 2001), Conservation of Resources Theory (Hobfall, 2002) and Social Cognitive Theory in which Psychological Capital (Luthans et al., 2007) is grounded. Additionally, the idea that personal differences or attributes can influence individuals' job crafting activity is also not new. For example, recent studies find that personal attributes including having a proactive personality (Bakker et al., 2012, Tims et al., 2012), readiness to change, and positive self image (Lyons, 2008) are associated with job crafting. In addition, employees who feel more self-efficacy on a daily basis have been found to job craft daily (Tims et al., 2014). Finally, Dikkers et al. (2009) acknowledge that the nature of enacting 'proactivity' as a resource would result in changes to a person's job [job crafting].

Resilience contains three key characteristics; an acceptance of reality (rather than unrealistic optimism), believing that life [or in the work context, one's job] is meaningful; and having an ability to improvise (Coutu, 2009) or an ability to prepare proactively for and anticipate challenges (Shin et al., 2012). It is the combination of these three attributes that gives an individual the ability to bounce back without experiencing significant harm from challenging events. In relation to job crafting, the concept of improving work meaningfulness is at the heart of job crafting activity, which is based on holding a strong belief about the value and meaningfulness of work. The ability to accurately analyse ones work situation and then to proactively prepare for and enact changes are also essential elements of job crafting. Therefore, we propose that resilience is a personal strength that is strongly allied to job crafting and that individuals with higher levels of resilience will be more likely to carry out job crafting.

H1: Resilience will predict task crafting

2. Relationships with leaders and managers as a predictor of task crafting

Good, positive, trusting and flexible relationships with managers are more likely to lead to less task management and more leadership. We propose that this could create space for employees to use their autonomy to craft for the following reasons. There is emerging evidence that crafting and Leader Member Exchange (LMX) are related. LMX concerns the relationship between a staff member and his/her leader, defined as "*an exchange relationship which develops over time during role making activities"* (Dansereau et al., 1975, p46). Underpinning this concept is the recognition that such relationships may vary in quality and depth over time. High quality relationships have been found to predict a range of performance measures such as creative work involvement (Volmer et al., 2012), job satisfaction and supervisor rated performance (Dansereau et al., 1975).

Study findings show that highly autonomous engineering and nursing professionals' perceptions of autonomy are related to the strength of supervisor-subordinate relationships (Farr-Wharton et al., 2011). Autonomy has been found to affect the relationship between LMX and creativity (Volmer et al., 2012) and it has been suggested that leaders who provide support for autonomy develop stronger relationships with their subordinates (Ilies et al., 2005). Furthermore, Van Dam et al. (2013) found a positive correlation between LMX and autonomy that is stable across varied job groups, such that individuals with high LMX will have higher perceived autonomy than those with lower LMX. This lends further support to the proposition that autonomy will interact with other antecedents of crafting, such as LMX, to create conditions for crafting to take place.

H2: Good LMX will predict task crafting.

3. Autonomy

Given the independent and self-initiated nature of job and task crafting, it is not surprising that the amount of autonomy, or the level of perceived control an individual has over their job and its relationship to job crafting actions has been of key interest to researchers in the area. As a starting point, autonomy has been found to be a precursor to individual job crafting (Berg et al., 2010b, Leana et al., 2009, Petrou et al., 2012, Lyons, 2008) as well as collaborative job crafting (Leana et al., 2009). In addition, although it might be expected that more senior employees with greater levels of autonomy have greater opportunities to craft, both are influenced by levels of seniority in a job, high and low ranking workers both craft

and experience different constraints on their ability to craft (Berg et al., 2010b). In addition, high and low ranked workers reported different outcome expectations from job crafting, with higher ranked employees adjusting their expectations of their potential to craft (cognitive crafting) and using their autonomy to delegate, thereby freeing up time for them to task craft (proactive crafting). By contrast, lower ranked employees developed relationships with others who could provide opportunities for them to craft (Berg et al., 2010b). Ultimately, for employees with low levels of autonomy, job crafting was used as a means of gaining more control over their work environment.

Overall, studies indicate that autonomy creates conditions for crafting, but that crafting activity is not restricted only to those with high levels of autonomy. On balance, though, we might expect higher levels of autonomy to predict higher levels of job crafting due to the opportunities and discretion that autonomy affords individuals to craft their jobs. In addition, as autonomy has already been shown to act as a mediator, for example between leader-manager exchange and creativity (Volmer et al., 2012), between role overload, job control social support and burnout (Fernet et al., 2013), it is plausible to also propose that autonomy will act as a mediator between antecedents of job crafting and job crafting activity. Thus, we propose that autonomy will act as a key mediator, enabling job and task crafting to take place.

H3a: Autonomy will mediate the relationship between resilience and task crafting.
H3b: Autonomy will mediate the relationship between LMX and task crafting.

4. Uncertainty as a moderator of task crafting

As job crafting is a means to improve work meaningfulness, including improving engagement and potentially seeking new ways to overcome work challenges, we believe that work uncertainty creates conditions for individuals to consider their job and how they do their job in a different way.

Uncertainty is defined as a lack of predictability concerning work tasks and work processes (Wall et al., 2002). The impact of uncertainty is that solutions to the challenges it creates are often difficult to analyse and solve because the causes of these challenges do not follow a set pattern (Wall et al., 2002). There is evidence that uncertainty has the potential to stimulate job crafting, as employees seek to gain greater control over their working conditions. Petrou et al. (2012) found that job crafting was more likely during times of uncertainty associated with organisational change as employees sought to respond to changes in work roles and tasks. Furthermore, Kim et al. (2009) suggest that successful individuals in an uncertain environment job craft, although this was based on the assumption that individuals who work in a dynamic environment must be job crafting in order to succeed, rather than on evidence of crafting.

Following Wrzesniewski and Dutton's (2001) and Leana's (2009) explanations of job crafting behaviours, when tasks are unpredictable, it is plausible that an employee's response to this may be to either to change the tasks (task crafting) or change work relationships such that they have a greater bank of social resources to draw on to address the task (relational crafting). When work processes are unpredictable, it is plausible that employees will again change their work relationships (relational crafting) to build their social resources, or think about the process in a different way if these are unable to be changed (cognitive crafting).

When challenges are difficult to solve due to unpredictability, it is not inconceivable that employees will seek to build their own skill base to gain greater control over their work (self-initiated skill development (Leana et al., 2009)). Thus, each of the three challenges created by uncertainty can be related to job crafting behaviours. Therefore, we suggest that when the work environment is stable and predictable, whilst job crafting may take place to create more stimulating work, times of uncertainty provoke job crafting to a greater extent.

> H4: The relationship between autonomy and task crafting will be moderated by uncertainty such that the relationship between autonomy and task crafting will be stronger where there are higher levels of uncertainty.

5. Climate for crafting as a moderator of task crafting

The organisational climate that an individual works within has been shown to be hugely influential in work behaviours, particularly organisationally beneficial behaviours.

Organisational climates have been found to exert an influence on work behaviours. For example, a supportive organisational climate has been found to mediate the relationship between PsyCap and performance (Luthans et al., 2008), and a study involving UK and Chinese employees found that a climate for autonomy is be positively related to performance and negatively related to stress (Hirst et al., 2008). However, many existing climate measures contain dimensions such as leadership (Gershon et al., 2004) (Brown and Leigh, 1996) and supervisory support (Patterson et al., 2005) that are not necessarily compatible with the self-initiated and private nature of job crafting. We contend that a 'climate for crafting' may exist that is conceptually distinct from other existing climates. Furthermore, we believe that a climate for crafting stands separate from other measure of climate and will create opportunities to task craft.

A climate for crafting is thus defined as one where crafting behaviours are enacted and able to be observed, where job diversification arising from crafting is expected and accepted, and where the outcomes of job crafting are perceived to be beneficial. We have developed a measure of climate for crafting and our proposition is that the relationship between autonomy and job crafting will be more positive under conditions of a strong climate for crafting than under conditions of a weak climate.

> H5: The relationship between autonomy and task crafting will be moderated by a climate for crafting such that the relationship between autonomy and task crafting will be stronger where there the climate for crafting is stronger.

Outcomes of job crafting

With regards to outcomes, findings suggest that employees job craft to align their job with personal value systems (Bakker et al., 2012, Berg et al., 2010b), to enhance enjoyment (Berg et al., 2010a, Petrou et al., 2012), or to increase control over their job (Berg et al., 2010b, Leana et al., 2009, Tims et al., 2012, Wrzesniewski and Dutton, 2001). There is early evidence in support of a positive relationship between job crafting and performance outcomes, at both team and individual level. Job crafting has been found to improve employee wellbeing through increasing job satisfaction and engagement and decreasing burnout (Tims et al., 2013). Recent findings suggest that it enables employees to mobilise

structural resources through improving autonomy, work variety, and social resources such as social support and feedback (Tims et al., 2013), and also to enhance goal orientation and perceived performance (Van Dam et al., 2013). Autonomy is also being positioned as an outcome of job crafting (Demerouti et al., 2015). Furthermore, job crafting behaviours such as seeking out challenges and increasing social and structural resources have been found to correlate positively with colleague rated performance (Bakker et al., 2012). Lastly, team or collaborative crafting has been found to predict supervisor ratings of performance (McClelland et al., 2014). Accordingly, evidence indicates that job crafting can improve work engagement and meaningfulness for employees but can also benefit employers.

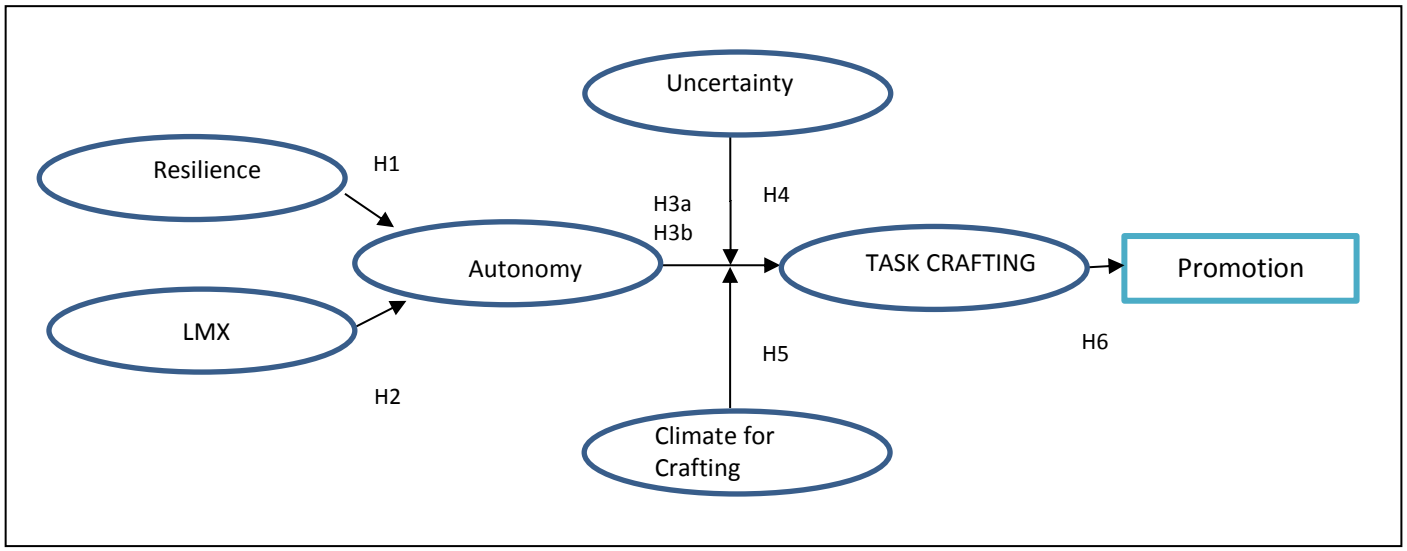
1. Promotion

The core idea behind job (and task) crafting is that individuals are actively shaping their jobs to create improved meaningfulness. It is not unrealistic to suppose that as a result of employees crafting to improve their work engagement and meaningfulness, then their work will improve. The natural outcome of this is a beneficial effect on career development, such as promotion. We propose that job crafting is beneficial in terms of career development. At the current time, there is some evidence that job crafting may be enacted as a career enhancing behaviour. A link between job crafting and promotion is suggested by Tims and Bakker (2010) with their finding that people with a 'promotion focus' may be more inclined to change aspects of their job to enhance their perceived effectiveness. Lyons (2008) finding that self-initiated skill development is one of the processes of job crafting, supports this suggestion as it is plausible that individuals who are seeking promotion may look at their own skills and seek to develop those that will enhance their promotion prospects. This is further supported by Kira et al. (2010), who finds that crafting behaviours include developing personal resources. Brenninkmeijer and Hekkert-Koning (2015) further find a positive relationship between job crafting and having a 'promotions based regulatory focus'. All of the above confirms that job crafting is being used as a means towards creating favourable conditions for career development. However, a direct link between job crafting and actual promotion has not yet been explored. With this in mind, the current study will test the hypotheses that individuals who report higher levels of job crafting are more likely to have been promoted within the last year. This follows the natural progression of promotion focussed behaviour leading onto promotion, and places task crafting as a promotions focused behaviour. This is particularly pertinent for staff in academic institutions, as evidence suggests that engagement within this context is often motivated by a desire for successful reward and recognition through career progression (Smith et al., 2014).

H6: Task crafting will be positively related to promotion.

Together, these hypotheses will lead to the testing of a final model, which sets out antecedents of task crafting and relates these to the wellbeing outcome of promotion (see Figure 1).

Figure 1: Hypothesised model of antecedents and outcomes of job crafting:



Method

1. Research setting, procedure and participants

The UK University sector was selected as the setting for this study, for three key reasons. Firstly, universities employ staff across a range of job categories, types and specialisms which provided the opportunity for the study to include staff with high and low autonomy roles. Job crafting activity has already been researched among these two types of job roles, and there is support for both being able to craft, albeit for different motivations and by different methods (Berg et al., 2010b, McClelland et al., 2014, Leana et al., 2009). In addition, knowledge workers in particular have characteristics that appear to be compatible with job crafting, including having the ability to deal with complex and large amounts of information (Cortada, 1998), and are more likely to be given greater levels of autonomy in their jobs (Sajeva, 2007). Finally, the University sector is a challenging and changing environment, which seeks to produce scholars who will also challenge existing knowledge. This environment potentially creates the climate for job crafting to take place.

197 participants from eight higher education institutions voluntarily completed an on-line quantitative questionnaire. Six of the participating institutions gave their consent for selected distribution of the survey, across faculties and service departments. Of these six, two were Russell Group, three were post 92 institutions and one was a post 2010 institution. In addition, the survey was distributed through trade union communication channels, resulting in individuals from another three institutions completing the survey. Paper copies of the survey were made available to participating organisations to ensure that staff without regular access to a computer were able to participate in the study. Data was collected between November 2013 and October 2014. The sample size exceeds the criteria of 10 respondents per item. The sample consisted of 61 men (31%) and 136 women (69%). Their mean age was 42.31 (SD = 10.81) years and their mean organisational tenure was 8.31 (SD = 7.46) years. Job roles varied between academic (32.5%), professional –managerial (21.8%), professional administrative (26.9%) and support-various manual (15.1%). Educational levels varied between postgraduate degree (60.9%), undergraduate degree (27.4%), lower education (11.6%).

2. Measures

Resilience was measured using three items from Luthans et al. (2007) Psychological Capital Questionnaire 12. This is the short version of the original 21 item Psychological Capital Questionnaire and both the full scale and the individual dimensions have been validated. Reliability testing showed Cronbach's Alpha of α= .72. The questionnaire was scored on a 1-6 Likert Scale, with 1 being strongly disagree and 6 being strongly agree. An example item is 'I usually take stressful things at work in my stride'.

Uncertainty was measured using three questions from Leach et al. (2012) uncertainty measure. This full measure contains nine items asking questions about resource certainty, task certainty, and input/output certainty, with the three items selected asking about task certainty. This scale has been recently developed and this study forms one of the first attempts to further validate it. Reliability testing showed Cronbach's Alpha of α= .85. The scale was scored on a 1-5 Likert scale.

LMX was measured using three items from Graen and Uhl-Bien (1995) LMX-7 measure. The three items were selected using a combined process of analysing face validity, with item 7 asking 'how would you characterise your working relationship with your line manager?' having the strongest face validity. Items were then analysed for their strength of loading onto the LMX higher order dimension and all three met the criteria for loading higher than .80. Reliability testing returned a Cronbach's Alpha of α=.91 The questionnaire was scored on a 1-5 Likert scale with questions all being phrased in the same direction. Each question had a different response for each number. The directional response for the answers was always negative, responses such as rarely, not a bit, not at all, strongly disagree for 1, and often, very high, extremely effective or fully for 5. Early meta analyses found that the LMX-7 measure had stronger construct validity than other available measures, returning higher Cronbach's alpha, although these are not explicitly stated (Gerstner and Day, 1997). The study asked respondents to complete the measures about their leader/supervisor.

Autonomy was measured using three items from Breaugh (1985) Autonomy Scale as this scale focuses particularly on work task autonomy, rather than job role autonomy and this is consistent with the focus on task crafting. The items were selected through both face validity and subsequent checking of factor loadings onto the core construct. Subsequent reliability testing of the scale produced Cronbach's alpha of α= .82 The scale is scored on a 1-7 scale with 1 being strongly disagree and 7 being strongly agree.

Task crafting was measured using three items adapted from McClelland et al. (2014). Construct validity testing showed Cronbach's alpha of α=.85. The scale is scored on a 1-5 Likert scale, with 1 being never and 5 being often. Respondents were directed to consider their actions 'in the last four weeks'. The questions are all uni-directional and do not need reverse coding.

Climate for crafting was measured using three items from a newly developed scale. A separate paper will outline the scale development process and outcomes but the three items represent one core dimension identified from the measure, identifying a climate for crafting as the creation of an acceptable social norm. Reliability testing produced Cronbach's alpha of α= .84. The scale was scored on a 1-5 Likert scale, with 1 being never and 5 being always.

Example items include ‘In my work area, job crafting is viewed positively by colleagues’ and ‘In my work area, job crafting is an acceptable work behaviour’.

Promotion was measured using a single question ‘have you been promoted within the last year’ and a yes/no response.

All of the measures used in this study were self rated. This did introduce the possibility of common method bias (Podsakoff et al., 2003), in particular common scale format and common anchor format bias. The ordering of the measures was set out to ensure that two measures that had the same scale were not being asked sequentially. Reverse directional responses of questions was considered and rejected due to the added drawback of this leading to confusion and frustration during completion by respondents.

3. Overview of the model testing approach

To prepare for analyses, all data was checked for normality of distribution. Shapiro Wilkes tests showed that the data was not normally distributed and therefore, skew and kurtosis were examined. The climate measure showed some kurtosis however, the sample size was large enough to adopt central limit theorem and therefore the data was considered to be normally distributed. Data was then analysed for outliers and individual datapoints outside of +/-3SD were removed.

To test the hypotheses, we used AMOS version 22 to perform structural equation modelling (SEM) with maximum likelihood estimation. In addition to the chi-square statistic (x^2) which is presented as CMIN/DF in AMOS, the analysis assessed model fit using the root-mean-square residual (RMR), and also the standardized root-mean-square residual (SRMR) as this does not penalise for large sample sizes and presents the average distance between predicted and observed variables. We used comparative fit index (CFI) to compare the model with a null model, and root mean square error or approximation (RMSEA) to measure parsimonious fit. Where two similar models were being compared, we used the Chi-square difference test to identify the best fitting model. The cut off values for these fit indices were as follows; RMR <.07, SRMR <.08, CFI >.90, RMSEA <.06.

Results

1. Descriptive statistics

Table 1 shows the means, standard deviations and correlations between the study variables, including demographic information to identify control variables. We controlled for the significant demographic correlations during analyses. The correlations indicate significant and positive relationship between most variables in the model, as expected, justifying their inclusion in the model. In addition, the relationship between task crafting and LMX was not significantly correlated which lends support to the idea of LMX-Crafting relationships being mediated.

Table 1

Means, Standard Deviations and Correlations among study variables (N=197)

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Workplace	1.87	1.19	-												
2. Age	42.3	10.8	.017	-											
3. Gender	1.69	.46	.076	-.036	-										
4. Education	5.42	.91	.007	.088	-.104	-									
5. Job Cat	3.11	1.20	-.003	-.321**	-.096	-.413**	-								
6. Time in Job	8.31	7.46	.004	.520**	-.069	.022	-.257**	-							
7. Resilience	4.61	.91	-.172*	-.130	.142*	-.048	.053	-.106	-						
8. LMX	3.68	1.12	-.070	-.087	.071	-.085	.038	-.088	.345**	-					
9. Autonomy	4.31	1.03	-.117	-.063	.038	-.046	-.013	-.053	.463**	.476**	-				
10. Climate	3.50	.71	.013	-.081	.000	-.082	.009	.031	.176*	.377**	.345**	-			
11. Uncertainty	3.37	.89	.075	-.040	-.017	-.023	-.066	.063	-.031	.013	.063	.066	-		
12. Task Craft	2.68	.97	-.026	-.088	-.044	.011	-.061	-.069	.235**	.128	.254**	.187**	.234**	-	
13. Promotion	.09	.21	.137	-.102	.060	.029	-.150*	-.020	.021	.077	.184**	.018	.094	.196**	-

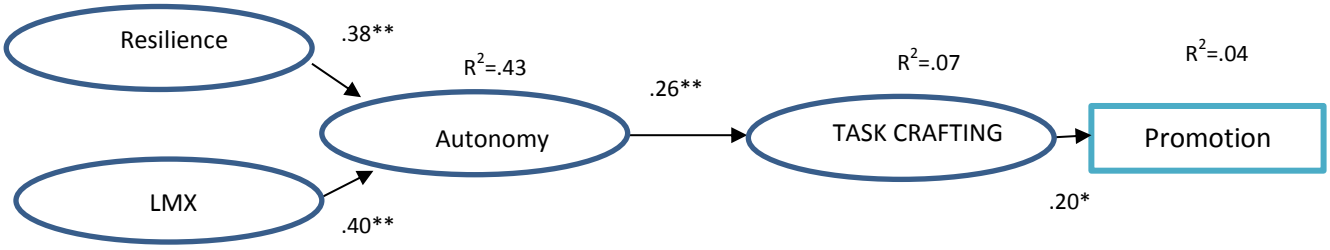
*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

2. Hypothesis testing

Structural equation modelling was used to test the hypotheses in the model, building up to testing the fully hypothesised model (see Figure 1). To begin, H1 and H2 were tested by firstly modelling the direct effects of resilience, LMX and autonomy on task crafting. The model fit was poor (x^2=153.52, p<.000, CFI = .932, RMR = .232, SRMR = .169, RMSEA = .088). Whilst regression between autonomy and task crafting was significant (β=.19, p=.025), and resilience and task crafting was also significant (β=.20, p=.044) supporting H1, the regression between task crafting and LMX was non-significant (β= -.042, p=.620), thus finding no support for H2. An improved model fit was found for the model proposing autonomy mediating the relationship between LMX and task crafting, and resilience and task crafting (x^2=81.04, p<.044, CFI = .983, RMR = .073, SRMR = .062, RMSEA = .041). Regression weights were stronger and all significant between autonomy and resilience, autonomy and LMX, and task crafting and autonomy (β=.38, p=.001, β= .40, p=.001, β= .262, p=.002 respectively). Analysis of mediation effect carried out using the Baron & Kenny approach and further analysed by examining bootstrapping two tailed significance as per Preacher and Hayes (Field 2014) provided support for H3a (β=.099, p=.007 95% CI [.023, .203]) and for H3b (β=.105, p=.007 95% CI [.029, .177]). This confirms that autonomy acts as a mediator between resilience and task crafting and LMX and task crafting, with full mediation between LMX and task crafting and partial but strong mediation between resilience and task crafting. Figure 2 sets out the path coefficients and residual variances associated with this analysis.

Figure 2: Autonomy as mediator of resilience and LMX on task crafting.

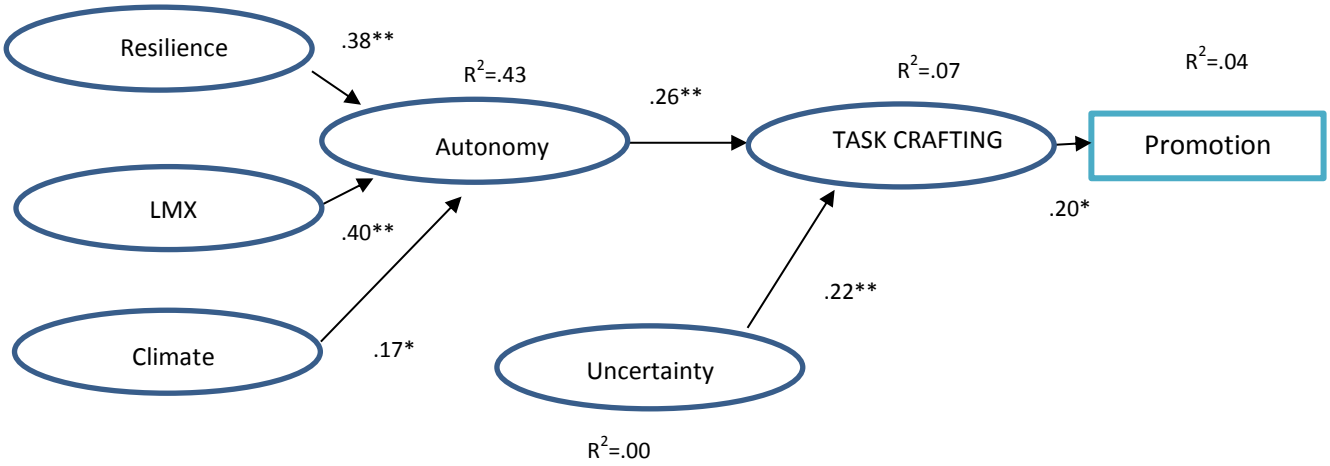


*p<.05, **p<.01

H4 and H5 were tested using interaction effect analysis in AMOS. Results showed a non-significant interaction effect of uncertainty on the autonomy-task crafting relationship, and therefore H4 can be rejected (β=.019, p=.789). H5 was also rejected as there was no support found for climate having a moderating effect on the autonomy-task crafting relationship (β=.017, p=.799). However, a significant effect was found for uncertainty on task crafting, suggesting that uncertainty is an independent predictor of task crafting (β=.220, p=.001).

As the correlation matrix indicated that climate for crafting was an important and significantly correlated variable, further analysis was carried out. The importance of autonomy as a mediator in task crafting already shown was considered in relation to climate for crafting and the model was re-analysed to test whether autonomy also mediated the climate-task crafting relationship. This analysis showed that a direct effect from climate to task crafting was not significant (β=.135, p=.114). The indirect of climate on task crafting as mediated by autonomy was significant (β=.095, p=.010, 95% CI [.027, .191]). Model fit statistics shows the data is a good fit (x^2=206.19, p<.001, CFI = .965, RMR = .067, SRMR = .623, RMSEA = .047). Finally H6 was supported with a significant regression from task crafting to promotion (β=.20, p=.009). Figure 3 sets out the fully tested model with path coefficients and residual variances.

Figure 3 A new model of antecedents and outcomes of task crafting



*p<.05, **p<.01

Discussion

This study supports the argument that autonomy is an essential predictor of task crafting (Berg et al., 2010b, Leana et al., 2009, Petrou et al., 2012, Lyons, 2008). However, as far as we are aware, this is the first study to show that autonomy mediates the effects of other predictors, including resilience and LMX. In addition, the study further supports the existence of a 'climate for crafting' as a predictor of task crafting, again mediated by autonomy, responding to calls from McClelland et al., (2014) to examine this further. The influence of social norms in generating organisational climates is not new (Schneider et al., 2013, Burchell et al., 2012) but the exclusion of the direct influence of managers in this new measure supports the finding of a climate for crafting as different from existing measures. The finding that uncertainty is an independent rather than mediated predictor of task crafting adds to Petrou et al.'s (2012) finding that daily job crafting can be a response to uncertainty related to organisational change, but provides evidence of this effect over a longer time period as the survey asked respondents to report on their crafting behaviour over the last four weeks. Whilst Petrou et al.,'s (2015) study finds that job crafting can be used as a strategy to respond to organisational change, this study specifically identifies uncertainty, rather than organisational change itself as as predictor of task crafting. Another feature of the study concerns the positive finding of the direct effect of task crafting on promotion, with previous studies focusing on potential for promotion rather than on promotion directly (Tims and Bakker., 2010, Brenninkmeijer and Hekkert-Koning., 2015). This positions task crafting

as a beneficial behaviour in terms of career development and suggests that job crafting could be further understood within a career development theoretical framework, in addition to the focus on job demands-resources theory currently being emphasised (Tims et al., 2012, Tims et al., 2013, Petrou et al., 2015).

Strengths, limitations and future research

This study has a number of strengths. The first concerns the broad range of respondents. Whilst all respondents worked within knowledge organisations (universities), particular care was taken to attract responses from all staff categories and this difference was subsequently controlled for in the analysis. Thus, although this study has not examined differences in crafting at different job roles as previous studies have (Berg et al., 2010b), the integration of employees with varied levels of autonomy lend strength to the findings. The second strength concerns the number of respondents to the survey. The ratio of respondents to items exceeds the 10:1 ratio generally accepted across literature on structural equation modelling. However, the sample size falls short of the 1:5 ratio of estimated parameters to respondents suggested by Hu and Bentler (1995) and further data is currently being collected to strengthen the findings.

Notwithstanding these strengths, this study has several limitations. Although the emphasis on the personal strength of resilience was theoretically intuitive, there is existing research that identifies that self-efficacy may also be an important personal strength to consider (Tims et al., 2014). Both self-efficacy and resilience are two of the dimensions of Psychological Capital (Luthans, 2007), alongside *hope* and *optimism*. This could therefore be an area for future study, particularly as Psychological Capital has been shown to be something that can be developed. This could link together the research on job crafting as a career development activity (Tims and Bakker, 2010, Brenninkmeijer and Hekkert-Koning, 2015) with the research on 'developing personal resources' as one of the activities of job crafting (Kira et al., 2010, Lyons, 2008). In addition, the presentation of a 'climate for crafting' could be further strengthened with a comparative study exploring whether this differs from existing measures of climate which appear to be theoretically aligned with job crafting, for example the Team Climate Inventory (Anderson and West 1998) which includes aspects such as psychological safety. In addition, although the study has found a positive relationship between task crafting and promotion, longitudinal research to test this more fully with the respondents would strengthen the finding. This could also then test the reciprocal relationship between job crafting and autonomy, as suggested by Tims et al., (2013) and Demerouti et al., (2015).

Conclusion

The model and findings position task crafting as a career development activity and as such, provide a valuable extension to the job crafting literature. The mixture of antecedents and the relationships between them provide clear signposts for individuals in terms of their own potential career development activities which adds to the existing literature on how to job craft by highlighting how to go about creating the conditions for it to take place. This has implications for individual employees as well as for organisations.

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